

Claims

1. A process to polymerize one or more monomers wherein at most 90 mole% of the safely useable amount of a first initiator is used and a
5 second initiator, having a half-life from 0.0001 hour to 1.0 hour at the polymerization temperature and that is less temperature stable than said first initiator, is being dosed at least partially after the start of the polymerization, in an amount, and preferably at a variable rate, such that at least 92% of the maximum cooling capacity is used during at least a
10 period of time wherein at least 10 % by weight of the monomer is polymerized.
2. A process according to claim 1 wherein the monomers comprise vinyl chloride.
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3. A process according to claim 1 or 2 wherein the process is a suspension polymerization process, preferably a batch suspension polymerization process.
- 20 4. A process according to any one of claims 1-3 wherein the second initiator is also added intermittently and/or continuously after the start of the pressure drop and/or during the pressure drop.
- 25 5. A process according to any one of claims 1-4 wherein a protective colloid is added during the polymerization process.
6. A process according to any one of claims 1-5 wherein said first initiator has a half-life of 0.1 hour to 10 hours at the polymerization temperature and the less temperature stable initiator has a half-life of 0.0001 hour to
30 1.0 hour at said temperature.

7. A process according to any one of claims 1-6 wherein the amount of the second initiator that is used is at least 0.01% by weight, based on the weight of the monomer that is polymerized.
- 5 8. A process according to any one of claims 1-7 wherein the total amount of first and second initiator is 0.01 to 1 %w/w, based on the weight of the monomer that is polymerized.
- 10 9. A process according to any one of claims 1-7 wherein the polymerization reactor has a volume of 15 m³ or more.